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ABSTRACT

Multisensory approaches and learning styles theories have been found to be effective in developing strategies to teach diverse learners in the elementary school setting. This paper examines how learning styles theory is related to multisensory approaches to teaching, describes a multisensory approach and the reading styles method, and discusses how educational programs using these approaches have been effective in improving student achievement. The paper concludes with recommendations for teachers to identify their students' learning styles and take them into consideration when designing instruction, and for administrators to provide training about learning styles and multisensory approaches. (KB)

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Multisensory Approaches and Learning Styles Theory in the Elementary School: Summary of Reference Papers

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TABLE OF CONTENTS

INTRODUCTION 2

MULTI-SENSORY APPROACHES AND LEARNING THEORY 3

How is learning styles theory related to multi-sensory approaches to teaching? 3

What is reading styles method? 3

What is a multisensory approach? 4

How have educational programs that use learning styles theory and multisensory approaches been effective in improving student achievement? 5

Wilson Elementary 5

Reading Styles Theory: Effective Programs 6

Ineffective Programs 7

CONCLUSIONS 8

RECOMMENDATIONS 9

REFERENCES 10

INTRODUCTION

According to Carbo (1996), "At present, only one-third of U.S. students read at levels that are likely to assure them academic success and good jobs. Nearly the same number of students cannot function even at the most basic level of literacy" (p. 8). Why are these students not learning the basics? Recently, this has been the focus of many politicians' political agendas. Schools and educators have been criticized for failing to teach the nation's children to read, write, and do math. In the last few years, educators have been addressing this disturbing news so as to identify ways to improve student achievement. Researchers have investigated the reasons why students are not achieving. This research has found that a number of factors, such as socioeconomic status, cultural diversity, and parental input, influence the academic success of students. Furthermore, the research has found that many diverse students learn differently. "Ample evidence suggests that business as usual – the traditional teacher-directed classroom with lectures, board work, and worksheets – has not worked for youngsters who are in the bottom third academically, many of whom are poor, minority, or immigrant students" (Carbo, p. 8).

Researchers have identified methods to effectively teach diverse learners who do not achieve in settings that use traditional methods. In investigating effective strategies to teach diverse learners, multisensory approaches and learning styles theory have been found to be effective. As educators begin to consider using multisensory approaches and learning styles theory in their educational program, they may have questions and concerns. Current research has helped teachers to answer some of these questions. Research by Carbo (1996), Stone (1992), Sudzina (1993), and Murphy (1997) help educators to understand

How is learning styles theory related to multi-sensory approaches to teaching?;

What is a multisensory approach?;

What is reading styles method?;

How have educational programs that use multisensory and learning styles theory approaches been effective in improving student achievement?

MULTISENSORY APPROACHES AND LEARNING THEORY

How is learning styles theory related to multisensory approaches to teaching?

In learning styles theory, the educator looks at the individual student and identifies the student's preferred styles or intelligences to learn. The educator uses a learning styles inventory to assess which learning styles and intelligences lead the student to succeed and which don't. The teacher then tries to design learning activities that integrate the student's learning styles.

What is reading styles method?

Learning styles theorists have identified another form of learning styles to be reading styles. "Reading styles has been defined by Carbo (1980b, 1982) as an individual's learning style when he or she reads, and can include environmental, emotional, sociological, physiological, and psychological stimuli" (Sudzina, 1993, p. 2). According to Carbo (1996), the different reading styles are visual, auditory, tactile, kinesthetic, global, and analytic. Carbo explains:

> Our individual reading styles predispose us to learn easily by using a particular reading technique. The problem is that different reading methods and materials demand different strengths of the learner. If a student has the strengths, a match occurs, and he or she learns to read easily and enjoy. If, however, there is a mismatch between the students and the approach, the instruction itself will hinder the youngster's learning to read (p. 9).

When using the reading styles method, a Reading Styles Inventory is used to produce "a profile describing a child's strengths and the best way of teaching that child to read" (Carbo, p. 9). Learning activities are then designed to meet the different students' individual reading style preferences so that they will have success when learning to read.

What is a multisensory approach?

A multisensory approach, "also known as VAKT (visual-auditory-kinesthetic-tactile) implies that students learn best when information is presented in different modalities (Mercer & Mercer, 1993)" (Murphy, 1997, p. 1). The belief is that students learn a new concept best when it is taught using the four modalities. A multisensory approach is one that integrates sensory activities. The students see, hear, and touch. "Activities such as tracing, hearing, writing, and seeing represent the four modalities" (Murphy, p. 1). For example, to teach spelling Graham and Freeman (1986) use a strategy that incorporates the four modalities (Murphy). Students say the word, write the word, check the word, trace the word, write the word from memory and check, and then repeat the entire process (Murphy). In essence, a multisensory approach incorporates the learning styles for visual, auditory, kinesthetic, and tactile learners. This approach doesn't

single out a specific learning style for a specific student. A multisensory approach is an eclectic approach that teaches all children regardless of their preferred learning style (Murphy, p. 19). Ideally, all four learning styles should be addressed equally. Still, "Blau and Loveless (1982) suggest that we emphasize the visual component of VAKT too much" (Murphy, p. 15).

How have educational programs that use learning styles theory and multisensory approaches been effective in improving student achievement?

Wilson Elementary

Some educational programs have effectively adopted learning styles theory and multisensory approaches. Wilson Elementary School is one example (Stone, 1992). Wilson Elementary, under the direction of Pete Stone, adopted a school wide program that is learning styles driven. After working to meet the students' individual learning style, the school saw "dramatic increases in standardized test scores (from the 20th and 30th percentiles to the 50th, 60th, and even the 70th percentiles in math and science)" (Stone, p.35). In addition there were fewer discipline problems because students were motivated and felt their needs were being met. Stone reflects, "Discipline was unbelievably good, and we could see significant improvements not only in students' achievement, but in their attitudes toward learning" (p. 36).

Teachers at Wilson have worked to create a learning environment sensitive to the student's needs. The program now takes into consideration whether the student is global or analytic, and addresses "mobility, perceptual strengths, environmental preferences, and sociological groupings" (Stone, 1992, p. 35). In the Wilson program, students are given a

Learning Styles Inventory to assess their learning strength and weaknesses (Stone). The school staff works as a group to meet the needs of all the learners by grouping "students according to tactile/kinesthetic or auditory strengths" (Stone, p. 36). Teachers then design learning activities that integrate the preferred styles of the students. Additionally, the teachers have revised curriculum to integrate the preferred learning styles. Furthermore, the staff "redesigned every classroom to respond to individual students' needs for sound, light, seating, and mobility" (Stone, p. 35). In addition, teachers play soft background music, provide low light and informal seating, and even permit juice and raw vegetables in their classrooms (Stone). Even the instructional schedule has been adjusted "to permit as many children as possible to be taught at their best time of day" (Stone, p. 35).

Reading Styles Theory: Effective Programs

Carbo (1996) provides examples of programs that have successfully used the Reading Styles model to improve students' reading. In Texas, Margil Elementary moved from 61st place to 9th place academically among the 65 elementary schools in the district. Rural schools in the poverty area of Bledsoe County, Tennessee, increased their stanine scores from 3 in reading to state and national averages (Snyder, 1994, as cited in Carbo). "In Tucson's Canyon del Oro High School, 33 special education students made average gains of nearly 2 years (or 12 NCEs) in reading comprehension in just four months" (Queiruga, 1992, as cited in Carbo, p. 8).

In explaining the successes of these programs, Carbo (1996) explains that "At all of the schools, teachers based their styles of reading instruction on each student's

strengths and needs. In other words, students drove instruction" (p. 8). According to Carbo, all of the programs are effective because they identify students' strengths, match reading methods, materials, and strategies to those strengths, and provide sufficient modeling and demonstration of reading. The teachers who use the Reading Styles method "use well-written, high-interest materials and encourage students to read and learn in comfortable, relaxed environments in a variety of individualized and group settings" (Carbo, p. 9). These programs are successful at doing as Carbo recommends. "As educators, we need at learn a wide variety of instructional techniques, adapting them to individual students' strengths. We must also help young people feel relaxed, receptive, and open to learning" (p. 13). The methods and materials used for instruction in these programs play the most integral role in improving reading (Barber and Carbo, (1994) as cited in Carbo, 1996).

Ineffective Programs

Sudzina (1993) studied a group of second-graders to investigate "the relationship among reading styles instructional method and reading achievement" (p. 2). Sudzina concluded that many teachers of young readers are unaware of the influences of learning preferences upon success. Often times, when instructing, teachers only address one or two learning styles preferences. Thus, students who are not good readers have less chance of succeeding because, often times, their reading styles are not addressed. "According to the RSI (Reading Styles Inventory) profiles of the young readers in this study, a variety of global, multisensory methods and materials that matched the subjects' styles should have been used in addition to basal instruction" (Sudzina, p. 17).

CONCLUSIONS

As educators work to help students achieve in school, many have adopted educational programs that consider learning styles theory and multisensory approaches to teaching. Learning styles theory holds the belief that individual students are successful in learning with different learning styles. Not all students learn well using the same learning style. Carbo (1996) explains that reading styles are a form of learning styles for the area of reading. Stone (1992), Sudzina (1993), and Carbo discuss how teachers need to identify which learning styles work effectively with which students. Teachers must then base instruction on the learning styles. A multisensory approach does not identify a particular style for a particular student. Murphy (1997) explains how a multisensory approach, also known as VAKT, integrates the visual, auditory, kinesthetic, and tactile learning styles to teach all students a concept. To be most effective, each of the learning styles needs to be used equally in instruction.

Numerous programs have had success using learning styles theory. Student achievement has improved. Stone (1992) and Carbo (1996) suggest that there are a number of reasons why such programs have had success. First, teachers identify the students' learning style strengths. Second, the educators match instructional methods, strategies, and materials to the different students' strengths. Third, teachers provide sufficient modeling. Fourth, students are encouraged to learn in comfortable, relaxed environments in a variety of individualized and group settings.

RECOMMENDATIONS

> Increasing the reading ability of the bottom third of our students lies at the heart of our nation's most pressing educational and social imperatives. Unless we learn how to teach those youngsters to read well, the United States will face an ever more difficult battle economically and socially (Carbo, 1996, p. 13).

Carbo's words are powerful. They remind all educators that they have a responsibility to help all students achieve. This means that teachers must help the lower achieving students to succeed. Teachers can not rely on the textbook and board methods because these methods have not been successful with a third of the nation's learners. Educators must become educated about learning styles theory and apply these theories to their teaching. Teachers must identify the learning styles of their students and take into consideration those learning styles when designing instruction. In addition, it appears many educational programs have had success when teachers work collaboratively to really meet the learning needs of their students. Thus, principals and school leaders should provide trainings about learning styles and multisensory approaches and provide teachers the time to collaborate. Educational programs which have adopted learning styles theory have had success in improving student achievement. Researchers should continue to identify such programs and study what makes such programs effective. In addition, more research needs to be made to assess the success of programs that use multisensory approaches.

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